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EXAMINER
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ROSSI, JESSICA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/798,590

Applicant(s)

WANG ET AL.

Examiner

Jessica L. Rossi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 4/13/06, Amendment.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 23-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 31-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                                    |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                               | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/22/06, 3/1/06</u> | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is in response to the amendment dated 4/13/06. Claim 36 was added. Claims 1-36 are pending but claims 23-30 remain withdrawn **without traverse**, as set forth in paragraph 1 of the previous action.

### ***Previous Rejections***

2. The rejection of claim 1 under 35 USC 102(e) as being anticipated by Hornung et al. (US 2004/0074588), as set forth in paragraph 6 of the previous action, has been withdrawn in light of the present amendment – claim now states a “moisture curable” sealant.

3. The rejection of claim 31 under 35 USC 103(a) as being unpatentable over Hornung et al. ‘588, as set forth in paragraph 11 of the previous action, has withdrawn in light of the present amendment – claim now states a “moisture curable” sealant.

### ***1.131 Declaration***

4. The declaration filed on 4/13/06 under 37 CFR 1.131 has been considered but is **ineffective** to overcome the Hornung et al. (US 2004/0074588) reference.

5. First, inventor Bing Wang only signed the declaration. According to MPEP 715.04, the declaration must be signed by ALL of the inventors unless it is shown that less than all the named inventors of the application invented the subject matter of the claim or claims under rejection.

6. Second, the evidence submitted is insufficient to establish a conception of the invention prior to the effective date of the Hornung reference. While conception is the mental part of the inventive act, it must be capable of proof, such as by demonstrative evidence or by a complete

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disclosure to another. Conception is more than a vague idea of how to solve a problem. The requisite means themselves and their interaction must also be comprehended. See *Mergenthaler v. Scudder*, 1897 C.D. 724, 81 O.G. 1417 (D.C. Cir. 1897).

The evidence submitted does not show possession of **every feature** recited in the count nor does it show that the inventor knew every limitation of the count at the time of alleged conception (MPEP 2138.04, "Conception"). At a minimum, the evidence says nothing about a moisture curable sealant or applying pressure at an ambient temperature of from about 15-60°C (evidence only mentions a cold press sealant and pressing at room temperature). Because the evidence does not enable one having ordinary skill in the art to reduce the invention to a practical form without exercise of inventive faculty, conception has not been established (see MPEP 2138.04, "Conception").

7. Third, even if Applicant can establish conception prior to the effective date of the Hornung reference, the evidence submitted is insufficient to establish diligence from a date prior to the date of reduction to practice of the Hornung reference to either a constructive reduction to practice or an actual reduction to practice.

The MPEP states that the critical period for diligence for a first conceiver but second reducer (allegedly Applicant) begins not at the time of conception of the first conceiver but just prior to the entry in the field of the party who was the first to reduce to practice (Hornung) and continues until the first conceiver reduces to practice (MPEP 2138.06, "Reasonable Diligence [R-1]"). The MPEP also states that an Applicant must account for the **entire period** during which diligence is required (MPEP 2138.06, "Reasonable Diligence [R-1]"). The MPEP also states that it is not enough to merely allege that the acts referred to occurred prior to a specific

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date and that Applicant must provide **actual dates** of acts relied on to establish diligence (MPEP 715.07, part II, "Establishment of Dates"). Because Applicant has failed to satisfy any of these requirements, diligence has not been established.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 17 and 34-36 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 17, it is still unclear as to how an insulating glass unit differs from an insulating glass assembly; therefore, claim 17 fails to further limit claim 1. Applicant is asked to clarify. It is suggested to cancel claim 17.

Regarding claim 34, it still recites the limitation "the first bond line" and "the second bond line" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. It is suggested to change these phrases to --a first bond line-- and --a second bond line--.

Regarding claim 36, it is unclear as to how this claim further limits claim 1 since claim 1 already states that the composition is moisture curable. Applicant is asked to clarify. It is suggested to cancel claim 36.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

11. Claims 1, 3, 5-8, 10, 12-14, 17 and 36 are rejected under 35 U.S.C. 102(a) as being anticipated by Reid et al. (US 6355317).

Reid teaches all the claimed limitations (column 4, lines 5-11 and 27-32; **column 5, lines 5-19** and 45-48; column 5, lines 53-62; column 7, lines 49-60; column 8, lines 53-55 and 64-65; column 9, lines 3-4; column 12, lines 9-13 and 60-64; **column 13, lines 22-33**)

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 9, 11, 18-22 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reid et al. as applied to claim 1 above.

Regarding claim 9, such would have been within purview of the skilled artisan depending on the characteristics of the sealant.

Regarding claim 11, whether to apply the pressure to the assembly while it is in a vertical or horizontal position would have been within purview of one having ordinary skill in the art since both techniques are well known and conventional in the art.

Regarding claim 18, one having ordinary skill would have appreciated that the assembly of Reid would ultimately be installed into a building which would require installing the assembly into a frame of the building; therefore one having ordinary skill would have been motivated to do

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this by applying sealant to the frame and applying pressure because such is well known and conventional in the art.

Regarding claim 19, all the limitations were addressed above.

Regarding claims 20-22, such performance requirements are required for all commercial insulating glass assemblies to pass inspection and therefore it would have been obvious to make the assembly of Reid such that it passes such requirements.

Regarding claims 31-33, all the limitations were addressed above with respect to claims 1, 3 and 20-22.

14. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reid et al. as applied to claim 1 above and further in view of Hornung (US 6679013).

Regarding claim 15, Reid is not concerned with a material for the spacer. Therefore, it would have been obvious to use metal or plastic because both materials are well known and conventional materials for making spacer/sash frames, as taught by Hornung '013 (column 5, lines 56-60).

Regarding claim 16, it is unclear as to whether the spacer extends from a sash frame and is integral with the sash frame. It would have been obvious to use a spacer that extends from and is integral with a sash frame because such is known in the art, as taught by Hornung '013 (Figures 6 and 8-9) because this reduces the number of separate components needed to make the final assembly.

15. Claims 2, 4 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reid et al. as applied to claims 1 and 31 above and further in view of the Admitted Prior Art in the present specification.

Regarding claims 2, 4 and 34, one reading Reid would have appreciated that the reference is not concerned with a particular pressure. Therefore, selection of a pressure would have been within purview of the skilled artisan; however it would have been obvious to use a pressure that falls within the claimed range because such is known in the art, as taught by the Admitted Prior Art (p. 2, lines 25-27).

Regarding claim 35, the limitation was addressed above with respect to claim 6.

16. Claims 1, 3, 5-14, 16-22, 31-33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hornung et al. (US 2004/0074588, of record) in view of Reid et al.

With respect to claims 1 and 36, Hornung teaches a process for making an IGU by applying a sealant composition 20 to a surface of a spacer 16, contacting the sealant with a glass pane 14, and applying pressure on the assembly at an ambient temperature to bond the glass pane to the spacer through the sealant (Figure 3; section [0034, 0036]). It is noted that the reference does not apply heat during the pressing step; therefore, the skilled artisan would readily appreciate that Hornung, like the present invention, teaches pressing at ambient temperature, wherein such a temperature would fall within Applicant's claimed range given the fact that room/ambient temperature is about 25°C. It is unclear as to whether the sealant is moisture curable.

One reading Hornung as a whole would have readily appreciated that the reference is not concerned with and/or limited to a particular type of sealant/adhesive (section [0025]); therefore selection of such would have been within purview of one having ordinary skill in the art. However, it would have been obvious to use a moisture curable sealant for that of Hornung because such is known in the art for bonding glass panes to a spacer to form an IGU, as taught by



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Reid (see paragraphs above for complete discussion), where a moisture curable sealant cures upon exposure to ambient moisture thereby eliminating the need for further processing (i.e. heating, irradiating, etc.) to promote curing of the sealant.

Regarding claims 3, 6 and 10, Hornung teaches such (Figure 3; section [0036]).

Regarding claim 5, Hornung in view of Reid teaches such (Reid at column 13, lines 22-25).

Regarding claims 7-8, Hornung in view of Reid teaches such (Reid at column 11, line 66 - column 12, line 6).

Regarding claim 9, such would have been within purview of the skilled artisan depending on the characteristics of the sealant.

Regarding claim 11, Hornung teaches such (sections [0037, 0047]).

Regarding claims 12-13, Hornung in view of Reid teaches such (Reid at column 5, lines 53-63; column 7, lines 49-60; column 8, lines 53-65; column 9, lines 3-4).

Regarding claim 14, Hornung in view of Reid teaches such (Reid at column 5, lines 5-7).

Regarding claims 16-17, Hornung teaches such (sections [0002, 0028]).

Regarding claim 18, Hornung teaches installing the insulated glass unit in a building or the like (section [0028]). The skilled artisan would have appreciated that such would require installing the glass unit into a frame of the building and therefore would have been motivated to do this by applying sealant to the frame and applying pressure because such is well known and conventional in the art.

Regarding claim 19, all the limitations were addressed above.

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Regarding claims 20-22, such performance requirements are required for all commercial insulating glass assemblies to pass inspection and therefore it would have been obvious to make the assembly of Hornung such that it passes such requirements.

Regarding claims 31-33, all the limitations were addressed above with respect to claims 1, 3 and 20-22.

17. Claims 2, 4 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hornung et al. '588 and Reid et al. as applied to claims 1 and 31 above and further in view of the Admitted Prior Art in the present specification.

Regarding claims 2, 4 and 34, one reading Hornung would have appreciated that the reference is not concerned with a particular pressure so long as the glazing panes are not damaged (section [0036]). Therefore, selection of a pressure would have been within purview of the skilled artisan; however it would have been obvious to use a pressure that falls within the claimed range because such is known in the art, as taught by the Admitted Prior Art (p. 2, lines 25-27).

Regarding claim 35, Hornung teaches such (section [0034]).

18. Claims 1, 3, 6-11, 16-18, 20-22, 31-33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hornung et al. '588 in view of Virnelson et al. (US 5849832), or alternatively, Virnelson et al. in view of Hornung et al. '588.

With respect to claims 1 and 36, Hornung teaches a process for making an IGU by applying a sealant composition 20 to a surface of a spacer 16, contacting the sealant with a glass pane 14, and applying pressure on the assembly at an ambient temperature to bond the glass pane to the spacer through the sealant (Figure 3; section [0034, 0036]). It is noted that the reference

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does not apply heat during the pressing step; therefore, the skilled artisan would readily appreciate that Hornung, like the present invention, teaches pressing at ambient temperature, wherein such a temperature would fall within Applicant's claimed range given the fact that room/ambient temperature is about 25°C. It is unclear as to whether the sealant is moisture curable.

One reading Hornung as a whole would have readily appreciated that the reference is not concerned with and/or limited to a particular type of sealant/adhesive (section [0025]); therefore selection of such would have been within purview of one having ordinary skill in the art. However, it would have been obvious to use a moisture curable sealant for that of Hornung because such is known in the art for bonding glass panes to a spacer to form an IGU, as taught by Virnelson (abstract; column 1, lines 6-30; column 3, lines 55-67; column 4, lines 1-35; column 6, lines 5-15), where a moisture curable sealant cures upon exposure to ambient moisture thereby eliminating the need for further processing (i.e. heating, irradiating, etc.) to promote curing of the sealant.

Alternatively, it would have been obvious to apply pressure on the assembly of Virnelson at an ambient temperature of from about 15-60°C to bond the glass pane to the spacer through the sealant because such is known in the art, as taught by Hornung, where the application of pressure ensures wet-out of the sealant and therefore promotes a more secure bond between the glass pane and spacer.

Regarding claims 3, 6 and 10, Hornung teaches such (Figure 3; section [0036]).

Regarding claims 7-8, Hornung in view of Virnelson teaches such (Virnelson at column 6, lines 5-15).

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Regarding claim 9, such would have been within purview of the skilled artisan depending on the characteristics of the sealant.

Regarding claim 11, Hornung teaches such (sections [0037, 0047]).

Regarding claims 16-17, Hornung teaches such (sections [0002, 0028]).

Regarding claim 18, Hornung teaches installing the insulated glass unit in a building or the like (section [0028]). The skilled artisan would have appreciated that such would require installing the glass unit into a frame of the building and therefore would have been motivated to do this by applying sealant to the frame and applying pressure because such is well known and conventional in the art.

Regarding claims 20-22, such performance requirements are required for all commercial insulating glass assemblies to pass inspection and therefore it would have been obvious to make the assembly of Hornung such that it passes such requirements.

Regarding claims 31-33, all the limitations were addressed above with respect to claims 1, 3 and 20-22.

19. Claims 2, 4 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hornung et al. '588 and Virnelson, or alternatively, Virnelson and Hornung et al. '588 as applied to claims 1 and 31 above, and further in view of the Admitted Prior Art in the present specification.

Regarding claims 2, 4 and 34, one reading Hornung would have appreciated that the reference is not concerned with a particular pressure so long as the glazing panes are not damaged (section [0036]). Therefore, selection of a pressure would have been within purview of the skilled artisan; however it would have been obvious to use a pressure that falls within the

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claimed range because such is known in the art, as taught by the Admitted Prior Art (p. 2, lines 25-27).

Regarding claim 35, Hornung teaches such (section [0034]).

20. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hornung et al. '588 and Virnelson, or alternatively, Virnelson and Hornung et al. '588 as applied to claim 1 above, and further in view of Briese et al. (US 2002/0069823, of record).

Regarding claim 5, Hornung teaches automatically dispensing the sealant adhesive onto both sides of the spacer, but is silent as to doing it simultaneously (sections [0037, 0048]). It would have been obvious to dispense simultaneously because such is known in the art of applying sealant to a spacer, as taught by Briese (Figures 1 and 2A; section [0009]), where this expedites the manufacturing process.

21. Claims 12-13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hornung et al. '588 and Virnelson, or alternatively, Virnelson and Hornung et al. '588 as applied to claim 1 above, and further in view of Wey et al. (US 5994474, of record).

Regarding claim 12, Virnelson teaches the moisture curable sealant comprising the claimed components (column 3, line 59 – column 4, line 38) but it is unclear as to whether the composition includes a tackifying agent. It is known in the art to bond a variety of materials, such as glass to metal or plastic, using a moisture curable sealant whose composition includes a tackifying agent, as taught by Wey (column 1, lines 11-14; column 3, lines 43-48; column 4, lines 11-13 and 16-30). Therefore, since Virnelson acknowledges the use of additives in his sealant composition (column 3, lines 65-67), it would have been obvious to one having ordinary skill in the art to include a tackifying agent in the sealant composition of Virnelson because such

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is known in the moisture curable sealant art, as taught by Wey, where such an additive improves the tack of the sealant.

Regarding claim 13, Virnelson teaches such.

Regarding claim 19, all the limitations were addressed above.

22. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hornung et al. '588 and Virnelson, or alternatively, Virnelson and Hornung et al. '588 as applied to claim 1 above, and further in view of Hornung '013.

Regarding claims 14-15, Hornung '588 is not concerned with a material for the spacer. Therefore, it would have been obvious to use metal or plastic because both materials are well known and conventional materials for making spacer/sash frames (Hornung '013, column 5, lines 56-60).

23. Claims 1, 3, 6-13, 16-22, 31-33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hornung et al. '588 in view of Wey et al. and further in view of Virnelson et al., or alternatively, Wey et al. in view of Hornung et al. '588 and further in view of Virnelson et al.

With respect to claims 1 and 36, Hornung teaches a process for making an IGU by applying a sealant composition 20 to a surface of a spacer 16, contacting the sealant with a glass pane 14, and applying pressure on the assembly at an ambient temperature to bond the glass pane to the spacer through the sealant (Figure 3; section [0034, 0036]). It is noted that the reference does not apply heat during the pressing step; therefore, the skilled artisan would readily appreciate that Hornung, like the present invention, teaches pressing at ambient temperature, wherein such a temperature would fall within Applicant's claimed range given the fact that

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room/ambient temperature is about 25°C. It is unclear as to whether the sealant is moisture curable.

Wey teaches bonding a variety of materials, such as glass to metal or plastic, in a variety of industries, such as the construction industry, using a moisture curable sealant composition that cures upon exposure to ambient moisture and therefore does not require the application of external heat to promote curing (column 1, lines 8-14; column 2, lines 11-17; column 4, lines 11-13 and 16-35). One reading Hornung as a whole would have readily appreciated that the reference is not concerned with and/or limited to a particular type of sealant/adhesive (section [0025]); therefore selection of such would have been within purview of one having ordinary skill in the art. However, it would have been obvious to use a moisture curable sealant for that of Hornung because such is known in the art for bonding glass to metal/plastic in the construction industry, as taught by Wey, where a moisture curable sealant cures upon exposure to ambient moisture thereby eliminating the need for further processing (i.e. heating, irradiating, etc.) to promote curing of the sealant; especially since it is known in the art to use a moisture curable sealant to bond glass panes to a spacer to form an IGU because such a sealant cures upon exposure to ambient moisture thereby eliminating the need for further processing (i.e. heating, irradiating, etc.) to promote curing of the sealant, as taught by Virnelson (abstract; column 1, lines 6-30; column 3, lines 55-67; column 4, lines 1-35; column 6, lines 5-15).

Alternatively, since Wey is not limited to bonding the glass to the metal/plastic to form any particular assembly, it would have been obvious to apply the moisture curable sealant of Wey to a spacer and contact the sealant with a glass pane and apply pressure at an ambient temperature of from about 15-60°C to bond the glass pane to the spacer to make an IGU because

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such is known in the construction industry, as taught by Hornung, where the application of pressure ensures wet-out of the sealant and therefore promotes a more secure bond between the glass pane and spacer; especially since it is known in the art to use a moisture curable sealant to bond glass panes to a spacer to form an IGU because such a sealant cures upon exposure to ambient moisture thereby eliminating the need for further processing (i.e. heating, irradiating, etc.) to promote curing of the sealant, as taught by Virnelson (abstract; column 1, lines 6-30; column 3, lines 55-67; column 4, lines 1-35; column 6, lines 5-15).

Regarding claims 3, 6 and 10, Hornung teaches such and therefore Wey in view of Hornung teaches such.

Regarding claims 7-8, Wey teaches such (column 3, lines 60-65).

Regarding claim 9, such would have been within purview of the skilled artisan depending on the characteristics of the sealant.

Regarding claim 11, Hornung teaches such.

Regarding claim 12, Wey teaches all the limitations (column 2, lines 21-22; column 3, lines 22-58) but it is unclear as to whether the composition includes polyisobutylene. It would have been obvious to include polyisobutylene in the moisture curable sealant composition of Wey because such is a known thermoplastic component in a moisture curable sealant composition, as taught by Virnelson (column 4, lines 1-13).

Regarding claim 13, Wey teaches such (column 3, lines 53-57).

Regarding claims 16-17, Hornung teaches such.

Regarding claim 18, Hornung teaches installing the insulated glass unit in a building or the like (section [0028]). The skilled artisan would have appreciated that such would require



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installing the glass unit into a frame of the building and therefore would have been motivated to do this by applying sealant to the frame and applying pressure because such is well known and conventional in the art.

Regarding claims 20-22, such performance requirements are required for all commercial insulating glass assemblies to pass inspection and therefore it would have been obvious to make the assembly of Wey in view of Hornung such that it passes such requirements.

Regarding claims 31-33, all the limitations were addressed above with respect to claims 1, 3 and 20-22.

24. Claims 2, 4 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hornung '588, Wey and Virnelson, or alternatively, Wey, Hornung '588 and Virnelson as applied to claims 1 and 31 above, and further in view of the Admitted Prior Art in the present specification.

Regarding claims 2, 4 and 34, one reading Hornung would have appreciated that the reference is not concerned with a particular pressure so long as the glazing panes are not damaged (section [0036]). Therefore, selection of a pressure would have been within purview of the skilled artisan; however it would have been obvious to use a pressure that falls within the claimed range because such is known in the art, as taught by the Admitted Prior Art (p. 2, lines 25-27).

Regarding claim 35, Hornung teaches such (section [0034]).

25. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hornung '588, Wey and Virnelson, or alternatively, Wey, Hornung '588 and Virnelson as applied to claim 1 above, and further in view of Briese et al.

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Regarding claim 5, Hornung teaches automatically dispensing the sealant adhesive onto both sides of the spacer, but is silent as to doing it simultaneously (sections [0037, 0048]). It would have been obvious to dispense simultaneously because such is known in the art of applying sealant to a spacer, as taught by Briese (Figures 1 and 2A; section [0009]), where this expedites the manufacturing process.

26. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hornung '588, Wey and Virnelson, or alternatively, Wey, Hornung '588 and Virnelson as applied to claim 1 above, and further in view of Hornung '013.

Regarding claims 14-15, Wey in view of Hornung '588 is not concerned with a material for the spacer. Therefore, it would have been obvious to use metal or plastic because both materials are well known and conventional materials for making spacer/sash frames (Hornung '013, column 5, lines 56-60).

27. Claims 1, 3, 7-9, 11, 14, 17-22, 31-33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Virnelson et al. in view of the prior art referred to by Glover et al. (US 4831799, provided in IDS).

\*If at some point during prosecution Applicant is able to provide a sufficient 1.131 declaration to overcome the Hornung '588 reference, the following rejection is set forth to expedite prosecution:

Applicant is directed to paragraphs 18-22 above for a complete discussion of Virnelson. It is unclear as to whether Virnelson teaches applying pressure at an ambient temperature of from about 15-60°C to bond the glass pane to the spacer through the moisture curable sealant. It is known in the art to make an IGU by applying a hot melt sealant composition to a spacer,

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contacting the sealant with a glass pane and then applying pressure at an ambient temperature (w/out heating) to bond the glass pane to the spacer, as taught by the prior art referred to by Glover (column 1, lines 41-48). Since the moisture curable sealant of Virnelson is a hot melt (abstract; column 2, lines 48-53), it would have been obvious to form the IGU of Virnelson by applying pressure at an ambient temperature of from about 15-60°C to bond the glass pane to the spacer because such is known in the art, as taught by Glover, where the application of pressure ensures wet-out of the sealant and therefore promotes a more secure bond between the glass pane and spacer.

Applicant is directed to paragraphs 18-22 above for rejections of the remaining dependent claims.

28. Claims 6, 10 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Virnelson et al. and Glover et al. as applied to claims 1 and 31 above, and further in view of the collective teachings of Bowser et al. (US 3919023, provided in IDS) and Glover et al. (US 6401428).

It is unclear as to whether Virnelson in view of Glover '799 teaches applying pressure to the panes of glass simultaneously and/or applying the pressure by means of a platen press, a roller press or combinations thereof. It is known in the art to bond panes of glass to a spacer frame having sealant on both sides thereof by applying pressure to the panes of glass simultaneously and/or applying the pressure by means of a stationary press or a roller press, as taught by the collective teachings of Bowser (Figure 6; column 6, lines 45-59; column 7, lines 34-38) and Glover '428 (column 6, lines 52-56). Therefore, it would have been obvious to one having ordinary skill in the art to apply the pressure of Virnelson in view of Glover '799 by

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applying the pressure to the panes of glass simultaneously and/or applying the pressure by means of a stationary press or a roller press because such is known in the art, as taught by the collective teachings of Bowser and Glover '428.

29. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Virnelson et al. and Glover et al. '799 as applied to claim 1 above, and further in view of Hornung '013.

Regarding claim 16, it is unclear as to whether the spacer of Virnelson extends from a sash frame and is integral with the sash frame. It would have been obvious to use a spacer that extends from and is integral with a sash frame because such is known in the art, as taught by Hornung '013 (Figures 6 and 8-9) because this reduces the number of separate components needed to make the final assembly.

30. Claims 1, 3, 7-9, 11, 14, 17-22, 31-33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wey et al. in view of the prior art referred to by Glover et al. '799 and further in view of Virnelson et al.

\*If at some point during prosecution Applicant is able to provide a sufficient 1.131 declaration to overcome the Hornung '588 reference, the following rejection is set forth to expedite prosecution:

Applicant is directed to paragraphs 23-26 above for a complete discussion of Wey. It is unclear as to whether Wey teaches applying the moisture curable sealant to a spacer, contacting the sealant with a glass pane and applying pressure at an ambient temperature of from about 15-60°C to bond the glass pane to the spacer to make an IGU. It is known in the art to make an IGU by applying a hot melt sealant composition to a spacer, contacting the sealant with a glass pane

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and then applying pressure at an ambient temperature (w/out heating) to bond the glass pane to the spacer, as taught by the prior art referred to by Glover (column 1, lines 41-48).

Since Wey is not limited to bonding the glass to the metal/plastic to form any particular assembly and since the moisture curable sealant of Wey is a hot melt (column 1, lines 13-14), it would have been obvious to apply the sealant of Wey to a spacer and contact the sealant with a glass pane and apply pressure at an ambient temperature to bond the glass pane to the spacer to make an IGU because such is known in the art, as taught by Glover '799, where the application of pressure ensures wet-out of the sealant and therefore promotes a more secure bond between the glass pane and spacer; especially since it is known in the art to use a moisture curable hot melt sealant to bond glass panes to a spacer to form an IGU because such a sealant cures upon exposure to ambient moisture thereby eliminating the need for further processing (i.e. heating, irradiating, etc.) to promote curing of the sealant, as taught by Virnelson (abstract; column 1, lines 6-30; column 3, lines 55-67; column 4, lines 1-35; column 6, lines 5-15).

Applicant is directed to paragraphs 23-26 above for rejections of the remaining dependent claims.

31. Claims 6, 10 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wey et al., Glover et al. '799 and Virnelson et al. as applied to claims 1 and 31 above, and further in view of the collective teachings of Bowser et al. and Glover et al. '428.

It is unclear as to whether Wey in view of Glover '799 teaches applying pressure to the panes of glass simultaneously and/or applying the pressure by means of a platen press, a roller press or combinations thereof. It is known in the art to bond panes of glass to a spacer frame having sealant on both sides thereof by applying pressure to the panes of glass simultaneously

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and/or applying the pressure by means of a stationary press or a roller press, as taught by the collective teachings of Bowser (Figure 6; column 6, lines 45-59; column 7, lines 34-38) and Glover '428 (column 6, lines 52-56). Therefore, it would have been obvious to one having ordinary skill in the art to apply the pressure of Wey in view of Glover '799 by applying the pressure to the panes of glass simultaneously and/or applying the pressure by means of a stationary press or a roller press because such is known in the art, as taught by the collective teachings of Bowser and Glover '428.

32. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wey et al., Glover et al. '799 and Virnelson et al. as applied to claim 1 above, and further in view of Hornung '013.

Regarding claim 16, it is unclear as to whether the spacer of Wey in view of Glover '799 and Virnelson extends from a sash frame and is integral with the sash frame. It would have been obvious to use a spacer that extends from and is integral with a sash frame because such is known in the art, as taught by Hornung '013 (Figures 6 and 8-9) because this reduces the number of separate components needed to make the final assembly.

#### ***Response to Arguments***

33. Applicant's arguments filed 4/13/06 have been fully considered but they are not persuasive. It is noted that Applicant only presented arguments with respect to the 1.131 Declaration and therefore is directed to paragraphs 4-7 above.

34. Since Applicant did not present any arguments with respect to the well known and conventional statements made in the previous action with respect to claims 12, 18 and 20-22, Applicant has therefore acquiesced (MPEP 2144.03(c)).

***Conclusion***

35. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**JESSICA ROSSI**  
**PRIMARY EXAMINER**

*Jessica Rossi*